

## Chemical Safety Data Sheet MSDS / SDS

## Benzo[a]pyrene

Revision Date:2024-03-16 Revision Number:1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

## Product identifier

Product name : Benzo[a]pyrene  
CBnumber : CB3696680  
CAS : 50-32-8  
EINECS Number : 200-028-5  
Synonyms : BP,Benzo[a]pyrene

## Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.  
Uses advised against : none

## Company Identification

Company : Chemicalbook  
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing  
Telephone : 400-158-6606

## SECTION 2: Hazards identification

## GHS Label elements, including precautionary statements

Symbol(GHS)



Signal word

Danger

## Precautionary statements

P501 Dispose of contents/container to....  
P405 Store locked up.  
P391 Collect spillage. Hazardous to the aquatic environment  
P308+P313 IF exposed or concerned: Get medical advice/attention.  
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P273 Avoid release to the environment.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.  
P202 Do not handle until all safety precautions have been read and understood.  
P201 Obtain special instructions before use.

#### **Hazard statements**

H360 May damage fertility or the unborn child  
H373 May cause damage to organs through prolonged or repeated exposure  
H400 Very toxic to aquatic life  
H410 Very toxic to aquatic life with long lasting effects  
H412 Harmful to aquatic life with long lasting effects  
H350 May cause cancer  
H340 May cause genetic defects  
H336 May cause drowsiness or dizziness  
H319 Causes serious eye irritation  
H317 May cause an allergic skin reaction  
H315 Causes skin irritation  
H304 May be fatal if swallowed and enters airways  
H225 Highly Flammable liquid and vapour

#### **Disposal**

WARNING.Cancer - <https://oehha.ca.gov/proposition-65/chemicals/benzoapyrene>

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## SECTION 3: Composition/information on ingredients

### **Substance**

|              |                     |
|--------------|---------------------|
| Product name | : Benzo[a]pyrene    |
| Synonyms     | : BP,Benzo[a]pyrene |
| CAS          | : 50-32-8           |
| EC number    | : 200-028-5         |
| MF           | : C20H12            |
| MW           | : 252.31            |

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## SECTION 4: First aid measures

### **Description of first aid measures**

#### **General advice**

Show this material safety data sheet to the doctor in attendance.

#### **If inhaled**

After inhalation: fresh air. Call in physician.

#### **In case of skin contact**

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

#### **In case of eye contact**

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

#### **If swallowed**

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

### Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### Indication of any immediate medical attention and special treatment needed

No data available

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## SECTION 5: Firefighting measures

### Extinguishing media

#### Suitable extinguishing media

Water Foam Carbon dioxide (CO<sub>2</sub>) Dry powder

#### Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

### Special hazards arising from the substance or mixture

Carbon oxides Combustible.

Development of hazardous combustion gases or vapours possible in the event of fire.

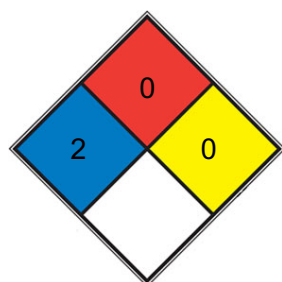
### Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

### Further information

Prevent fire extinguishing water from contaminating surface water or the ground water system.

### NFPA 704



HEALTH 2 Intense or continued but not chronic exposure could cause temporary incapacitation or possible residual injury (e.g. [diethyl ether](#), ammonium phosphate, iodine)

FIRE 0 Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand. Materials that will not burn in air when exposed to a temperature of 820 °C (1,500 °F) for a period of 5 minutes.(e.g. Carbon tetrachloride)

REACT 0 Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium,[N<sub>2</sub>](#))

SPEC.

HAZ.

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## SECTION 6: Accidental release measures

### **Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Avoid generation and inhalation of dusts in all circumstances. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

### **Environmental precautions**

Do not let product enter drains.

### **Methods and materials for containment and cleaning up**

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.

### **Reference to other sections**

For disposal see section 13.

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## SECTION 7: Handling and storage

### **Precautions for safe handling**

#### **Advice on safe handling**

Work under hood. Do not inhale substance/mixture.

#### **Hygiene measures**

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

#### **Conditions for safe storage, including any incompatibilities**

#### **Storage conditions**

Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

#### **Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## SECTION 8: Exposure controls/personal protection

### **control parameter**

#### **Hazard composition and occupational exposure limits**

Does not contain substances with occupational exposure limits.

## Exposure controls

### Personal protective equipment

#### Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

#### Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm Break through time: 480 min

Material tested:KCL 741 Dermatril? L

Splash contact Material: Nitrile rubber

Minimum layer thickness: 0,11 mm Break through time: 480 min

Material tested:KCL 741 Dermatril? L

#### Body Protection

protective clothing

#### Respiratory protection

required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type P3

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

#### Control of environmental exposure

Do not let product enter drains.

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## SECTION 9: Physical and chemical properties

### Information on basic physicochemical properties

|   |  |
|---|--|
| Appearance                              | yellow solid                             |
| Odour                                   | weakly aromatic                          |
| Odour Threshold                         | No data available                        |
| pH                                      | No data available                        |
| Melting point/freezing point            | Melting point/range: 177 - 180 °C - lit. |
| Initial boiling point and boiling range | 495 °C - lit.                            |
| Flash point                             | 495°C                                    |
| Evaporation rate                        | No data available                        |
| Flammability (solid, gas)               | No data available                        |
| Upper/lower flammability or explosive   | No data available                        |

|  |   |
|--|---|
| limits                                 |   |
| Vapour pressure                        | 2.4 at 25 °C (McVeety and Hites, 1988)  |
| Vapour density                         | No data available   |
| Relative density                       | 1,35 g/cm <sup>3</sup> No data available  |
| Water solubility                       | Soluble in benzene, toluene, and xylene; sparingly soluble in ethanol and methanol (Windholz et al., 1983)              |
| Partition coefficient: n-octanol/water | No data available   |
| Autoignition temperature               | No data available   |
| Decomposition temperature              | No data available   |
| Viscosity                              | Viscosity, kinematic: No data available Viscosity, dynamic: No data available   |
| Explosive properties                   | No data available   |
| Oxidizing properties                   | No data available   |
| Henry's Law Constant                   | 7.35 at 25 °C (thermodynamic method-GC/UV spectrophotometry, Altschuh et al., 1999)(x 10 <sup>-10</sup> mmHg at 25 °C): |

### Other safety information

No data available

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## SECTION 10: Stability and reactivity

### Reactivity

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

### Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### Possibility of hazardous reactions

No data available

### Conditions to avoid

no information available

### Incompatible materials

Strong oxidizing agents

### Hazardous decomposition products

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### Information on toxicological effects

**Acute toxicity**

Oral

**Skin corrosion/irritation**

Skin - Mouse

Result: Mild skin irritation Remarks: (RTECS)

**Serious eye damage/eye irritation**

No data available

**Respiratory or skin sensitization**

May cause allergic skin reaction. Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

**Germ cell mutagenicity**

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation Result: positive

Remarks: (Lit.)

Test Type: Mutagenicity (mammal cell test): chromosome aberration. Test system: Chinese hamster ovary cells

Metabolic activation: with and without metabolic activation Result: positive

Remarks: (National Toxicology Program) Test Type: sister chromatid exchange assay Test system: Chinese hamster ovary cells

Metabolic activation: with and without metabolic activation Result: positive

Remarks: (National Toxicology Program)

Test Type: Chromosome aberration test Species: Mouse

Cell type: Bone marrow

Application Route: Intraperitoneal injection

Result: positive

Remarks: (National Toxicology Program)

**Carcinogenicity**

No data available

**Reproductive toxicity**

May damage the unborn child. May damage fertility.

**Specific target organ toxicity - single exposure**

No data available

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**Toxicity**

LD<sub>50</sub> for mice (intraperitoneal) 232 mg/kg (Salamone, 1981).

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## SECTION 12: Ecological information

**Toxicity**

No data available

**Toxicity to daphnia and other aquatic invertebrates**

EC<sub>50</sub> - Daphnia magna (Water flea) - 0,25 mg/l - 48 h Remarks: (above the solubility limit in the test medium) (ECOTOX Database)

**Toxicity to algae**

static test ErC50 - Scenedesmus acutus - 0,005 mg/l - 72 h Remarks: (ECOTOX Database)

**Persistence and degradability**

No data available

**Bioaccumulative potential**

Bioaccumulation Lepomis macrochirus (Bluegill) - 48 h

- 0,0005 mg/l/(benzo[a]pyrene)

Bioconcentration factor (BCF): 3.208

**Mobility in soil**

No data available

**Results of PBT and vPvB assessment**

This substance/mixture contains components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB).

**Other adverse effects**

No data available

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## SECTION 13: Disposal considerations

**Waste treatment methods****Product**

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

**Incompatibilities**

Incompatible with oxidizers (chlorates, nitrates, peroxides, permanganates, perchlorates, chlorine, bromine, fluorine, etc.); contact may cause fires or explosions. Keep away from alkaline materials, strong bases, strong acids, oxoacids, epoxides, nitrogen dioxide and ozone.

**Waste Disposal**

Incineration in admixture with a flammable solvent.

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## SECTION 14: Transport information

**UN number**

ADR/RID: 3077 IMDG: 3077 IATA: 3077

**UN proper shipping name**

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (benzo[a]pyrene) IMDG: ENVIRONMENTALLY HAZARDOUS



SUBSTANCE, SOLID, N.O.S. (benzo[a]pyrene)

IATA: Environmentally hazardous substance, solid, n.o.s. (benzo[a]pyrene)

### **Transport hazard class(es)**

ADR/RID: 9 IMDG: 9 IATA: 9

### **Packaging group**

ADR/RID: III IMDG: III IATA: III

### **Environmental hazards**

ADR/RID: yes IMDG Marine pollutant: yes IATA: yes

### **Special precautions for user**

### **Further information**

EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids.

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## SECTION 15: Regulatory information

### **Safety, health and environmental regulations/legislation specific for the substance or mixture**

#### **Regulations on the Safety Management of Hazardous Chemicals**

China Catalog of Hazardous chemicals 2015:Not Listed. website: <https://www.mem.gov.cn/>

#### **Measures for Environmental Management of New Chemical Substances**

Vietnam National Chemical Inventory:Listed. website: <https://chemicaldata.gov.vn/>

United States Toxic Substances Control Act (TSCA) Inventory:Listed. website: <https://www.epa.gov/>

Philippines Inventory of Chemicals and Chemical Substances (PICCS):Listed. website: <https://emb.gov.ph/>

New Zealand Inventory of Chemicals (NZIoC):Listed. website: <https://www.epa.govt.nz/>

Korea Existing Chemicals List (KECL):Listed. website: <http://ncis.nier.go.kr>

European Inventory of Existing Commercial Chemical Substances (EINECS):Listed. website: <https://echa.europa.eu/>

EC Inventory:Listed.

Chinese Chemical Inventory of Existing Chemical Substances (China IECSC):Listed. website: <https://www.mee.gov.cn/>

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## SECTION 16: Other information

### **Abbreviations and acronyms**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

CAS: Chemical Abstracts Service

EC50: Effective Concentration 50%

IATA: International Air Transportation Association

IMDG: International Maritime Dangerous Goods

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

STEL: Short term exposure limit

TWA: Time Weighted Average

## References

- 【1】 CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- 【2】 ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- 【3】 ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>
- 【4】 eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: [http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)
- 【5】 ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- 【6】 Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- 【7】 HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- 【8】 IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- 【9】 IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- 【10】 Sigma-Aldrich, website: <https://www.sigmaaldrich.com/>

## Other Information

Do NOT take working clothes home. Insufficient data are available on the effect of this substance on human health, therefore utmost care must be taken. Benzo(a)pyrene is present as a component of polycyclic aromatic hydrocarbons (PAHs) in the environment, usually resulting from the incomplete combustion or pyrolysis of organic matters, especially fossil fuels and tobacco.

### Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.